LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (Currently Amended)

The ~~A~~ power converter according to claim 4 or claim 5, ~~for delivering power to a load, comprising:~~

~~a single stage buck-boost converter for converting a rectified input signal;~~

~~a switching output stage for converting the DC signal to a switched signal delivered to the load;~~

a said controller comprising a single IC which is coupled to both the buck-boost converter and the output stage, said single IC controlling both the buck-boost converter and the output stage; and

~~wherein the buck-boost converter includes a switch driven by the controller; and further comprising~~

drive signals provided from the controller to the switch, the drive signals being operable to switch the switch to draw an input current substantially in phase with an input voltage;

feedback signals from the output stage to the controller for providing to the controller an indication of output power supplied to the output stage; and

circuitry in said single IC for maintaining said output power constant by receiving said indication of output power and responsively controlling said drive signals provided to said switch to control an on-time of said switch.

Claims 2-3 (Canceled)

Claim 4 (Previously Presented)

A power converter for delivering power to a load, comprising:

a single stage buck-boost converter for converting a rectified input signal;

a switching output stage for converting the DC signal to a switched signal delivered to the load; and

a controller coupled to the buck-boost converter and the output stage for controlling the buck-boost converter and the output stage;

wherein the buck-boost converter includes a switch driven by the controller;

an inductor coupled to the switch for storing current supplied by the switch; and

a drive signal provided from the controller to the switch to switch the switch to a conducting state when current through the inductor is substantially zero.

Claim 5 (Previously Presented)

A power converter for delivering power to a load, comprising:

a single stage buck-boost converter for converting a rectified input signal;

a switching output stage for converting the DC signal to a switched signal delivered to the load; and

a controller coupled to the buck-boost converter and the output stage for controlling the buck-boost converter and the output stage;

wherein the buck-boost converter includes a switch driven by the controller;

an inductor coupled to the switch for storing current supplied by the switch; and

a drive signal provided by the controller to the switch to switch the switch to a conducting state for a selected period of time, whereby current stored in the inductor varies depending upon the selected period of time the switch is in the conducting state.

Claim 6 (Original)

The power converter according to claim 4, further comprising a diode coupled to the switch and the inductor for directing current from the switch to the inductor.

Claim 7 (Original)

The power converter according to claim 5, further comprising a diode coupled to the switch and the inductor for directing current from the switch to the inductor.

Claim 8 (Previously Presented)

The power converter according to claim 4 or claim 5, further comprising a switching full bridge in the output stage for supplying power to the load, the switches in the switching full bridge being controllable by the controller.

Claim 9 (Original)

The power converter according to claim 6, further comprising a capacitor coupled to the diode and the inductor for storing energy supplied by the inductor when the diode is conducting.

Claim 10 (Original)

The power converter according to claim 7, further comprising a capacitor coupled to the diode and the inductor for storing energy supplied by the inductor when the diode is conducting.

Claim 11 (Previously Presented)

The power converter according to claim 4 or claim 5, further comprising a feedback signal from the buck-boost converter to the controller for contributing to determining when the switch is switched.

Claim 12 (Original)

The power converter according to claim 4, further comprising a feedback signal from the inductor to the controller for determining when the inductor current is substantially zero.

Claim 13 (Canceled)

Claim 14 (Previously Presented)

An electronic ballast for driving an HID lamp, comprising the power converter of claim 4 or claim 5.

Claim 15 (Original)

A buck-boost converter for supplying regulated power from a rectified AC input, comprising:

a switch coupled to the rectified AC input for switching the rectified AC input;

an inductor coupled to the switch for storing current supplied through the switch when the switch is in a conducting state;

a diode coupled to the switch and the inductor for directing current from the switch to the inductor when the diode is not conducting; and

a capacitor coupled to the diode and the inductor for storing energy supplied by the inductor when the diode is conducting, the capacitor supplying an output of the buck-boost converter.

Claim 16 (Original)

The buck-boost converter according to claim 15, further comprising:

a controller for controlling the buck-boost converter; and

an output signal of the controller coupled to the switch for switching the switch.

Claim 17 (Original)

The buck-boost converter according to claim 16, wherein the controller is operable to provide a switching signal to the switch to draw an input current in phase with an input voltage.

Claim 18 (Original)

A buck-boost converter according to claim 16, further comprising a feedback signal from the inductor to the controller to provide an indication of the voltage or current of the inductor.

Claim 19 (Previously Presented)

The buck-boost converter according to claim 16, wherein the controller comprises an integrated circuit.

Claim 20 (Currently Amended)

An integrated circuit controller for controlling a power converter according to claim 4 or claim 5, comprising:

a single IC which includes:

a power factor correction circuit for driving the a switch in the a buck-boost converter based on buck-boost converter parametric signals supplied to the integrated circuit;

a driver circuit for driving a switching full bridge circuit to control power delivered to a load connected to the switching full bridge circuit;

drive signals provided from the controller to the switch, the drive signals being operable to switch the switch to draw an input current substantially in phase with an input voltage;

feedback signals from the output stage to the controller for providing to the controller an indication of output power supplied to the output stage; and

circuitry in said single IC for maintaining said output power constant by receiving said indication of output power and responsively controlling said drive signals provided to said switch to control an on-time of said switch.

Claim 21 (Original)

The integrated circuit according to claim 20, further comprising a current sense circuit having an input coupled to the switching full bridge circuit to obtain an indication of current flowing through the switching full bridge circuit.

Claim 22 (Original)

The integrated circuit according to claim 20, further comprising an electronic ballast for driving an HID lamp.

Claim 23 (Original)

A method for controlling the power converter according to claim 1, comprising:

operating the buck-boost converter to draw an input current in phase with an input voltage;

operating the buck-boost converter to obtain a regulated DC bus voltage supplied from the buck-boost converter to the output stage; and

operating the output stage to supply a constant power to the load.

Claim 24 (Canceled)

Claim 25 (Previously Presented)

The power converter according to claim 1, wherein said feedback signals are representative of a voltage and a current at said output circuit.

Claim 26 (Previously Presented)

The integrated circuit according to claim 20, wherein said feedback signals are representative of a voltage and a current at said output circuit.